

THE NERVOUS AND ENDOCRINE SYSTEM

Name _____ Group _____

0. Translate all these words

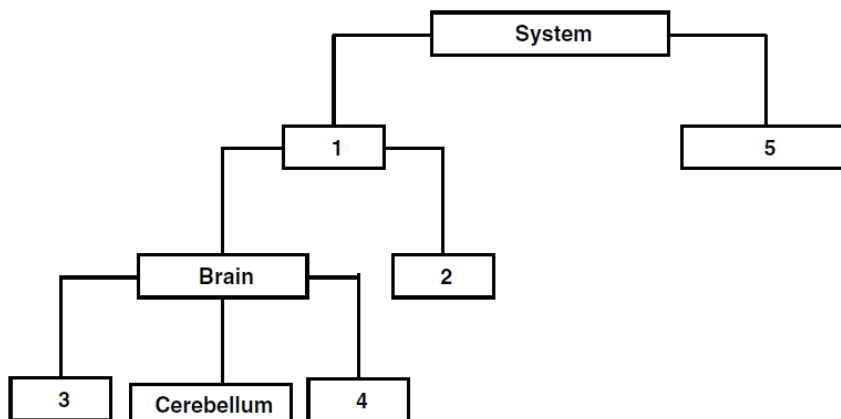
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|---------------|----------------------|-------------------------------|
| 1. Adrenaline | 8. Growth | 15. Peripheral Nervous System |
| 2. Brain | 9. Insulin | 16. Speed up |
| 3. Cerebellum | 10. Iodine | 17. Spinal cord |
| 4. Cerebrum | 11. Manufactures | 18. Stimuli |
| 5. Dendrite | 12. Nervous system | 19. Synapse |
| 6. Dwarfism | 13. Neuron | 20. Testes |
| 7. Goiter | 14. Neurotransmitter | |

Answer these questions (1-10) with the help of the Power point U4 Neuron-nervous system- Fernando

1. Give **3 examples** of **Receptors**:
2. Give **3 examples** of **Effectors**
3. **What is a nerve?**
4. Fill in the gaps
 - The junction between two neurons is called a _____, it forms a physical _____ between the pre-synaptic and post-synaptic neurons
 - An action potential (_____ signal) cannot cross the synaptic gap, so it triggers the release of chemicals (_____) to continue the signal
5. What are the neurotransmitters?
6. How is the nerve impulse transmitted in the synapse?
7. Name the two structures which make up the central nervous system.
8. (a) The nerve fibres which carry impulses from the sense organs to the central nervous system are called fibres.
(b) The nerve fibres which carry impulses from the central nervous system to the glands and muscles are called fibres.
9. Complete the passage below, selecting the appropriate words from the list below.
A neurone (nerve cell) consists of a A containing a nucleus surrounded by B Branching filaments, called C, extend from the cell surface and make D, with other neurones. In E and F neurones, one of the filaments is very long and is called, G

sensory, nerve fibre, cell body, impulses, dendrons, dendrites, motor, contact, axons, synapses, cytoplasm

10. Complete this outline of the nervous system substituting the numbers for words.



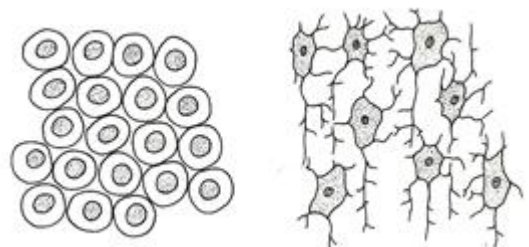
11. Fill in the gaps in this transcript from the video The Nervous System:

The nervous system: the brain, spinal cord and _____, is a living communication's network carrying various kinds of messages to and from different parts of your body. The nervous system is composed of nerve fibres that conduct information into your spinal cord and _____ and the other nerve fibres that send information out to different parts of your _____. The cells that make up the various parts of the nervous system are called _____. Each neuron has a neuron body, a part of the cell which contains a nucleus and other structures. But a typical neuron has two other kinds of structures. Long fibres that extend in different directions from the body of the cell. These fibres are often wrapped with a fatty substance called _____. Fibres that carry impulses towards the neuron body are called dendrites. Fibres that carry impulses away are called _____. Different structures are concentrated in different parts of the body. Some neuron bodies are bound into clusters called ganglia. They are often associated with your spinal cord. The _____ is a long cylinder of nerve tissue that passes through the hollow channels of bones called the vertebrae. The spinal cord is protected by those vertebrae. It is also protected by three membranes called _____.

12.

A transverse section through the spinal cord is examined under the high power of the microscope. Part of it looks like diagram A and part looks like diagram B. Which is grey matter and which is white matter?

Give reasons for your decision



13. Complete the following sentences about the differences between the nervous system and the endocrine system.

The nervous system sends the information in the form of through cells called

The endocrine system sends the information through which travel around the

14. In the table below, enter some general points of contrast between the nervous and endocrine system.

	Nervous system	Endocrine system
Speed of conduction		
Route of conduction		
Area affected		
Duration of response		

Hormones

Hormones are chemical substances that act like messenger molecules in the body. After being made in one part of the body, they travel to other parts of the body where they help control how cells and organs do their work. For example, insulin is a hormone that's made by the beta cells in the pancreas. When it's released into the blood, insulin helps regulate how the cells of the body use glucose (a type of sugar) for energy.

15. Which one of the following statements about adrenaline is correct?
- It increases heart rate and increases release of glucose from the liver.
 - It increases heart rate and reduces release of glucose from the liver.
 - It reduces heart rate and increases release of glucose from the liver.
 - It reduces heart rate and reduces release of glucose from the liver.
16. Fill in the transcript of the video "The Pancreas"
- The pancreas, located behind the _____, is involved in the body's ability to use glucose. Within the pancreas, tiny structures called "islets of langerhans" secrete hormones into the _____. These islets are composed of several cell types. One cell type, Beta cells, release insuline after every meal. Insuline, along with_____, passes into the blood stream and travels throughout the entire body. Insuline binds to specific receptors located on _____. The binding prompts the opening of glucose gates allowing glucose to enter the cell. Diabetes is a _____ in which the body has trouble using glucose. In type 1 diabetes, the Beta cells are no longer able to produce insuline. In type II diabetes, insuline is produced and binds with the cells _____. However, when insuline binds with the receptors, the glucose _____ fail to open, preventing the entry of glucose into the cell.
17. Name the two hormones produced by the pancreas and say
- in what circumstances,
 - in what way, they adjust the glucose concentration in the blood.
18. Name the hormones produced by (a) the testes, (b) the ovaries.
19. (a) Name the condition and
- describe the effects of the failure of the pancreas to produce sufficient-insulin.
 - How is this condition treated? .
20. What is Pituitary dwarfism?
21. And goiter?

NAME	WHERE IS IT?	HORMONE	FUNCTION
Pituitary	Base of the brain	<ul style="list-style-type: none"> - Stimulating hormones: -Growth hormone -ADH hormone 	<ul style="list-style-type: none"> - Hormones that control functions of other glands for example, in puberty make that the sex organs start to produce sex hormones or sperm and egg production -Hormones controlling growth -Controls the water balance in your body
Thyroid	Neck	Thyroxin	-Hormone regulates the rate of metabolism
Adrenal glands	At the top of the kidneys	- Adrenaline	- Adrenaline helps your body to cope with an emergency heart rate increases, blood vessels widen, more glucose reaches the muscles...
Pancreas	Thorax	<ul style="list-style-type: none"> -Insuline -Glucagon 	<ul style="list-style-type: none"> -Insuline lowers blood sugar level -Glucagon increases blood sugar level
Testes (males)	Abdomen	-Male sex hormones Testosterone	-Develops secondary sexual characteristics in puberty
Ovaries (females)	Abdomen	<ul style="list-style-type: none"> -Female sex hormones Oestrogen Progesterone 	<ul style="list-style-type: none"> -Develops secondary sexual characteristics in puberty -Controls menstrual cycle , ovulation and pregnancy -In the menopause, ovaries stop to produce hormones.

5 TIPS TO IMPROVE YOUR MEMORY

Laughter is the best medicine, right?

Listening to jokes and working out punch lines activates areas of the brain vital to learning and creativity. The happier you are, the better you think... isn't nature amazing?

3. Don't worry... meditate!

Meditation has been proven to produce more activity in the left prefrontal cortex of the brain, the parts associated with happy feelings. It also creates more connections in the brain. And you know what that does? It increases mental ability and memory.

4. Eat healthy food!

You probably already know that a diet based on fruits, vegetables, whole grains, "healthy" fats (such as olive oil, nuts, fish) and lean protein will provide lots of health benefits, but such a diet can also improve memory.

5. Exercise your brain!

Memory, like muscles, needs you to "use it or lose it." The more you work out your brain, the better you'll be able to process and remember information.

Activities that require using your hands are a great way to exercise your brain. Playing a musical instrument, juggling, enjoying a game of ping pong (table tennis), making pottery, knitting, or needlework are activities that exercise the brain by challenging hand-eye coordination, spatial-temporal reasoning, and creativity.